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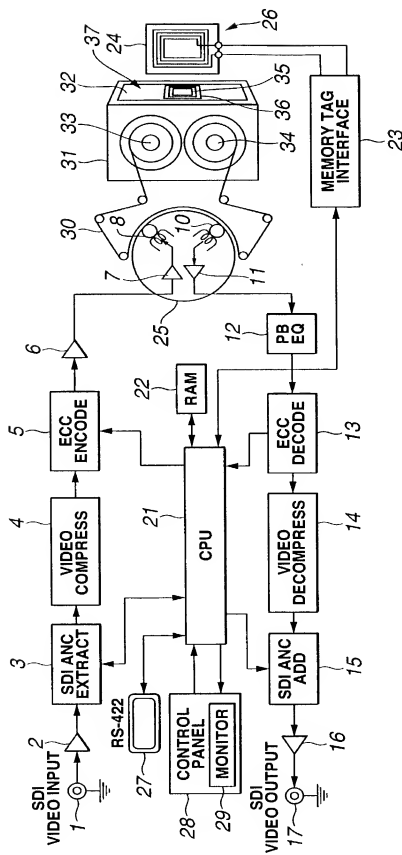


FIG.1

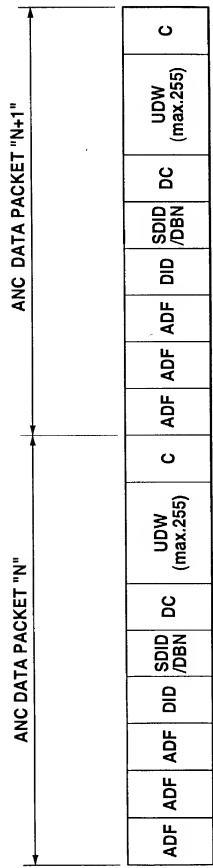


FIG.2

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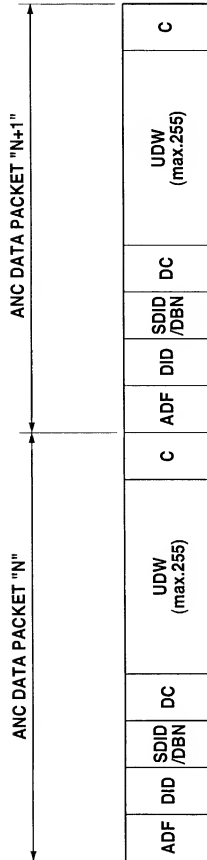


FIG.3

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SMPTE label								DESCRIPTION	Value Length	Value Range
01	00	00	00	00	00	00	00	CLASS 1 ID AND LOCATOR		
01	01	00	00	00	00	00	00	GLOBALLY UNIQUE ID		
01	01	01	xx	Null	Null	Null	Null	UMID VIDEO		
01	01	02	xx	Null	Null	Null	Null	UMID AUDIO		
01	01	03	xx	Null	Null	Null	Null	UMID DATA		
01	01	04	xx	Null	Null	Null	Null	UMID SYSTEM		
01	01	10	00	00	00	00	00	INTERNATIONAL BROADCASTING STATION ID		
01	01	10	01	00	00	00	00	ORGANIZATION CATEGORY	127 bytes max.	
01	01	10	03	00	00	00	00	PROGRAM ID		
01	01	10	03	01	00	00	00	UPID		
01	01	10	03	02	00	00	00	UPN		
01	01	10	04	00	00	00	00	MEDIUM ID		
01	01	10	04	01	00	00	00	SAME AS LINE 64		
01	01	10	04	01	00	00	00	EBU ID NO		
01	01	11	00	00	00	00	00	ISO ID		
01	01	11	01	00	00	00	00	ISO AUDIO VISUAL NO.		
01	01	11	02	00	00	00	00	ISO BOOK NO.		
01	01	11	03	00	00	00	00	ISO SERIAL NO.		
01	01	11	04	00	00	00	00	ISO MUSICAL WORK CODE		
01	01	11	05	00	00	00	00	ISO PRINTED MUSIC NO.		
01	01	11	06	00	00	00	00	ISO COMMERCIAL ID		
01	01	11	07	00	00	00	00	ISO RECORDING CODE		
01	01	11	08	00	00	00	00	ISO REPORT NO.		
01	01	11	09	00	00	00	00	ISO GLOSSARY		
01	01	11	0A	00	00	00	00	ISO TEXTUAL WORK CODE		
01	01	13	01	00	00	00	00	DIGITAL OBJECT ID		
01	01	14	00	00	00	00	00	COMPOSITE ID		
01	01	14	01	00	00	00	00	SERIAL ITEM AND CONTRIBUTION ID		
01	01	14	02	00	00	00	00	BOOK ITEM AND COMPONENT ID		
01	01	14	03	00	00	00	00	AUDIO VISUAL ITEM AND COMPONENT ID		
01	01	14	04	00	00	00	00	DESTINATION ID		
01	01	15	00	00	00	00	00	SAME AS LINE 66		
01	01	15	01	00	00	00	00	INTERNET GLOBALLY UNIQUE ID		

FIG.4

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SMPTE label								DESCRIPTION	Value Length	Value Range
01	03	02	02	00	00	00	00	SLOT ID	4 bytes	
01	03	02	03	00	00	00	00	OBJECT TEXT ID		
01	03	02	03	01	00	00	00	GROUP NAME	variable	
01	03	02	03	02	00	00	00	SLOT NAME	variable	
01	03	02	03	03	00	00	00	OBJECT NAME	variable	
01	04	05	00	00	00	00	00	LOCAL LOCATOR		
01	04	05	01	00	00	00	00	LOCAL MEDIUM LOCATOR		
01	04	05	01	01	00	00	00	LOCAL FILE PASS	127 bytes max.	
01	04	05	03	00	00	00	00	FILM LOCATOR		
01	04	05	03	01	00	00	00	EDGE CODE	32 chars max.	
01	04	05	03	02	00	00	00	FRAME CODE	32 chars max.	
01	04	05	03	03	00	00	00	KEY CODE	4 bytes	
01	04	05	03	04	00	00	00	Ink NO	32 chars max.	
01	04	05	03	05	00	00	00	SEGMENT START CODE	8 bytes	
01	04	10	00	00	00	00	00	PROXY LOCATOR		
01	04	10	01	00	00	00	00	PROXY TEXT	127 bytes max.	
01	04	10	02	00	00	00	00	PROXY FRAME	127 bytes max.	
01	04	10	03	00	00	00	00	PROXY SOUND	127 bytes max.	
01	04	10	04	00	00	00	00	KEY DATA	127 bytes max.	
01	04	11	00	00	00	00	00	HANDWRITE		
01	05	11	01	00	00	00	00	HANDWRITTEN NAME	variable	
01	05	01	00	00	00	00	00	TITLE		
01	05	01	01	00	00	00	00	TITLE TYPE	127 bytes max.	
01	05	01	02	00	00	00	00	MAIN TITLE	127 bytes max.	
01	05	01	03	00	00	00	00	SUB TITLE	127 bytes max.	
01	05	01	04	00	00	00	00	SERIES NO.	32 chars max.	
01	05	01	05	00	00	00	00	EPISODE NO.	32 chars max.	
01	05	01	06	00	00	00	00	SCENE NO.	32 chars max.	
01	05	01	07	00	00	00	00	TAKE NO.	2 bytes	
01	10	00	00	00	00	00	00	OWNER		
01	10	01	00	00	00	00	00	OWNER UNDER CISAC		
01	10	01	01	00	00	00	00	CONTACT PERSON		
01	10	02	00	00	00	00	00	ID UNDER AGICOA		

FIG.5

SMPTE label								DESCRIPTION	Value Length	Value Range
04 01 01 00 00 00 00 00								VIDEO'S BASIC CHARACTERISTIC		
04 01 01 01 00 00 00 00								VIDEO SOURCE DEVICES AND APPARATUSES	32 chars max.	
04 01 01 02 00 00 00 00								OE CONVERSION METHOD		
04 01 01 02 01 00 00 00								GAMMA CHARACTERISTIC		
04 01 01 02 01 01 00 00								GAMMA FORMULA	4 chars max.	See types dictionary
04 01 01 02 01 02 00 00								GAMMA	8 bytes	
04 01 01 02 02 00 00 00								BRIGHTNESS COMPUTATION	4 chars max.	See types dictionary
04 01 01 02 03 00 00 00								COLORIMETRI CODE	4 chars max.	See types dictionary
04 01 01 03 00 00 00 00								SCANNING INFORMATION		
04 01 01 03 01 00 00 00								COMPONENT SEQUENCE	4 chars max.	See types dictionary
04 01 01 03 02 00 00 00								COLOR FRAME INDEX	1 bytes	00h=default,01h-07h=field number
04 01 01 03 03 00 00 00								VERTICAL RATE	1 bytes	See types dictionary
04 01 01 03 04 00 00 00								FRAME RATE	1 bytes	See types dictionary
04 01 01 04 00 00 00 00								ASPECT RATIO	1 bytes	See types dictionary
04 01 01 00 01 00 00 00								NO. OF LINES		
04 01 01 01 01 01 00 00								TOTAL NO. OF LINES/FRAME	2 bytes	
04 01 01 02 01 02 00 00								ACTIVE LINES/FRAME	2 bytes	
04 01 01 03 01 03 00 00								LEADING EDGE	4 bytes	
04 01 01 04 01 04 00 00								TRAILING EDGE	4 bytes	
04 01 01 04 02 00 00 00								ASPECT RATIO STANDARD		
04 01 01 04 02 01 01 00								ASPECT RATIO		
04 01 01 04 02 01 01 01								IMAGE ASPECT RATIO	1 bytes	
04 01 01 04 02 01 01 02								SAME AS ABOVE	8 bytes	
04 01 01 04 02 01 02 00								ASPECT RATIO BY SENSOR	1 bytes	See types dictionary
04 01 01 04 02 02 00 00								STORAGE HEIGHT	4 bytes	
04 01 01 04 02 03 00 00								STORAGE WIDTH	4 bytes	
04 01 01 04 02 04 00 00								SAMPLE HEIGHT	4 bytes	
04 01 01 04 02 05 00 00								SAMPLE WIDTH	4 bytes	
04 01 01 04 02 06 00 00								SAMPLE X OFFSET	4 bytes	
04 01 01 04 02 07 00 00								SAMPLE Y OFFSET	4 bytes	
04 01 01 04 02 08 00 00								DISPLAY HEIGHT	4 bytes	
04 01 01 04 02 09 00 00								DISPLAY WIDTH	4 bytes	
04 01 01 04 02 0A 00 00								DISPLAY X OFFSET	4 bytes	

FIG.6

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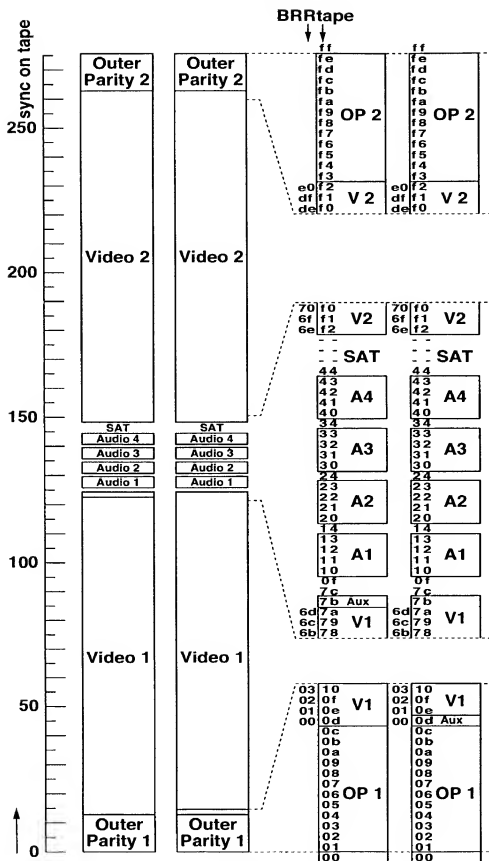


FIG.7

Category	Data No.	Byte Count	Assignment
1	D0 --> D33	34	Activity Map
	D34 --> D35	2	Reserved
2	D36 --> D39	4	VITC TC
	D40 --> D43	4	VITC UB
	D44	1	Check Sum of VITC
	D45	1	Reserved
3	D46 --> D47	2	REC ID
	D48 --> D51	4	Reserved
4	D52 --> D53	2	Model Name
	D54 --> D56	3	VTR Serial No.
	D57	1	Destination
5	D58 --> D61	4	Date of Recording
6	D62	1	VTR status
	D63 --> D67	5	Reserved
7	D68 --> D125	58	Reserved
8	D126 --> D169	44	Meta-data
9	D170 --> D215	46	Reserved
10	D216	1	Not Used

FIG.8

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Category	Assignment	Data No.	DESCRIPTION
2	VITC TC	D36 --> D39	VITC TC data D36:Frame D37:Second D38:Minute D39:Hour
	VITC UB	D40 --> D43	VITC TC data D36:Frame D37:Second D38:Minute D39:Hour
	Check SUM	D44	VALUE RESULTED FROM INTEGRATION OF D36 TO D43 AND INVERSION OF INTEGRATED VALUE
3	REC_ID	D46,D47	REC_ID=Sec+Min+Hour+0x0011 +(VALUE RESULTED FROM LEFTWARD SHIFT BY 8 BITS OF FRAME COUNTER/)
4	Model Name	D52,D53	
	VTR Serial No.	D54 --> D56	Serial No.
	Destination	D57	
5	Date of Recording	D58 --> D61	
6	VTR status	D62	INFORMATION ON RECORDING FREQUENCY AND NUMBER OF LINES
			B0:EXISTENCE OR ABSENCE OF 0.1% WITH RESPECT TO Frame FREQUENCY 0:0.1% ON 1:0.1% OFF
			B1:NUMBER OF VALID LINES 0:1035 1:1080
			B2:SELECTION OF SDI OR SDTI 0:SDI 1:SDTI(DUB)
			B4,B3:Frame FREQUENCIES 00:30Hz 01:25Hz 10:24Hz
			B5:SELECTION OF Interlace OR PsF 0:Interlace 1:PsF
			RELATION BETWEEN B5,B4,B3 AND B0 AND SYSTEM FREQUENCY B76543210 XX000XX0 59.94i XX000XX1 60i XX001XX1 50i XX100XX0 29.97PsF XX100XX1 30PsF XX101XX1 25PsF XX110XX0 23.98PsF XX110XX1 24PsF

FIG.9

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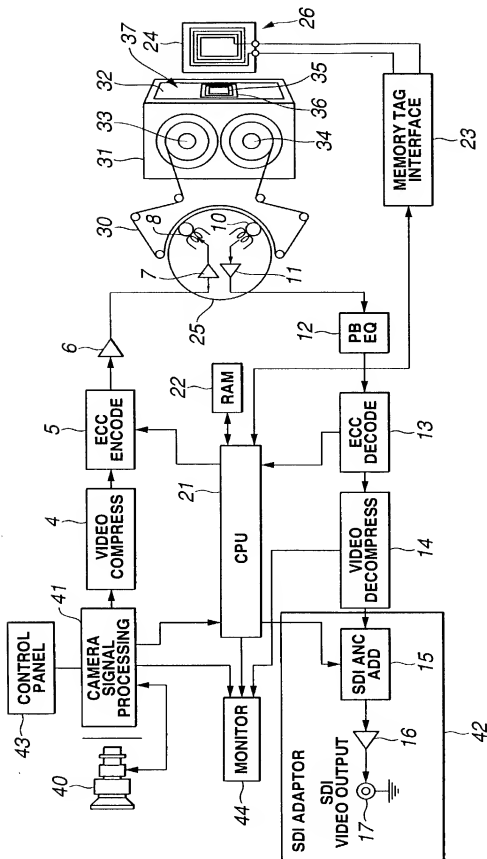


FIG.10

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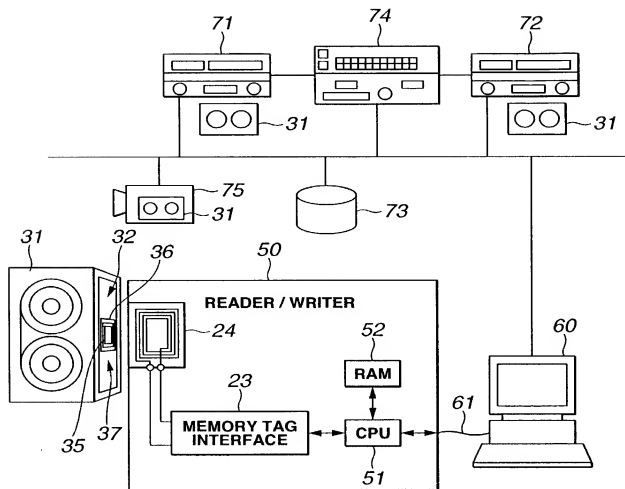


FIG.11

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Block No.	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0000	Memory Management Table															
0001	Manufacture ID Table															
0002	Format Definition Table															
0003	Common Area															
nnnn																

FIG.12

Offset Address (Byte)			
0	Memory_size		04h
1		(Hamming 8/4 code)	00h
2	Manufacture_code	MANUFACTURER	03h
3		(Hamming 8/4 code)	00h
4	Version	VERSION	01h
5	Lot_number		
6			
7	Reserve	00h	00h
8	Application_id	APPLICATION (01h Read/Write Media)	01h
9		(Hamming 8/4 code)	
10	Media_id	LABEL SHAPE	82h
11		(Hamming 8/4 code)	00h
12	Application_id	Reserve	00h
13	Dependent Field		00h
13			00h

FIG.13

Offset Address	MSB 7	6	5	4	3	2	1	LSB 0
0	Reserve							Memory_size=(bit0~bit6)× 256Bytes
1	00h							

FIG.14

Offset Address	MSB 7	6	5	4	3	2	1	LSB 0
5	<Day>							<Month
6	>	<Year>						
		UD						

FIG.15

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Offset Address (Byte)		
0	VIDEO SOURCE DEVICE ID	2 DIGITS (BCD) (VIDEO SOURCE DEVICE ID AT MANUFACTURER)
1	ID	HUNDRED THOUSANDS AND TEN THOUSANDS (BCD)
2	ID	THOUSANDS AND HUNDREDS (BCD)
3	ID Reserve	TENS AND ONES (BCD)
4	Reserve	Reserve 00h
5	(FIXED VALUE)	7Fh,02h,00h,00h,01h,05h,20h,OFFh,OFFh,OFFh,
6		OFFh
7		
8		
9		
10		
11		
12		
13		
14		
15		

FIG.16

Byte0	Byte1	Byte2	Byte3	Byte4	Byte5	Byte6	Byte7
Media_ID	Lot_Number		ID (Block #0001 byte0~byte4)				

FIG.17

MSB								LSB
P1	D1	P2	D2	P3	D3	P4	D4	

FIG.18

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$$P1 = 1 \oplus D1 \oplus D3 \oplus D4$$

$$P2 = 1 \oplus D1 \oplus D2 \oplus D4$$

$$P3 = 1 \oplus D1 \oplus D2 \oplus D3$$

$$P4 = 1 \oplus P1 \oplus D1 \oplus P2 \oplus D2 \oplus P3 \oplus D3 \oplus D4$$

 \oplus EXCLUSIVE OR

FIG.19

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HEX.	HAMMING BASE 8/4 BINARY
0	10101000
1	00001011
2	00100110
3	10000101
4	10010010
5	00110001
6	00011100
7	10111111
8	01000000
9	11100011
A	11001110
B	01101101
C	01111010
D	11011001
E	11110100
F	01010111

FIG.20

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LOW	HIGH
04h	00h

FIG.21

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Offset Address (Byte)		
0	Keyword	KEY CODE FOR REWRITING BLOCK NO. 0002 FFh AND FEh FIXED VALUES
1	Code	
2	Application Name & Version	APPLICATION NAME
12	WriteProtect	0:Write Enable 1:Write Disable
13	Country	COUNTRY NO. (BCD) EX. UNDEFINED 00h JAPAN 00h USA 00h
15	Number	00h 81h 01h

FIG.22

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Block No.	Address	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	
#0003	0030	Cassette ID																
#0004	0040	Data Base Key																
#0005	0050	> <																
#0006	0060	Title																
#0007	0070	Administrator																
#0008	0080	Serial No.				Model Name												
#0009	0090	Pointer	EOSR_ID	RS	RT	EOS Point				Thread				Update				
#000A	00A0	DataOPP	FAT Definition				Reserve				FQ				ADStatus			
#000B	00B0	Data Area																
↑	↑	↑ ↓																

FIG.23

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Byte0	Byte1	Byte2	Byte3
LL	LH	HL	HH (NUMBER OF SIGNIFICANT DIGITS)

FIG.24

BYTE0	BYTE1
L	H
Max. FFFFh	

FIG.25

MSB7	6	5	4	3	2	1	LSB0
NOT YET MEASURED	TOP/ END	(N EOT)	END OF TAPE	CASSETTE SIZE 00:S,01:M,10:L	Reserve		

FIG.26

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TAPE STATUS	Bit6	Bit4
TOP	0	1
MIDDLE	0	0
END	1	1

FIG.27

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	MSB 7	6	5	4	3	2	1	LSB 0
DATA-1	CF	DF	10F				1F	
DATA-2			10S				1S	
DATA-3			10M				1M	
DATA-4			10H				1H	

FIG.28

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BYTE0	BYTE1
L	H
Max. 7FFFh	

FIG.29

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Block No.	Address	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
#0009	0090	00	06	00	00	00	00	00	00	00	00	07	00	19	98	05	06
#000A	00A0	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00	00
#000B	00B0	01	00	15	59	59	23	00	00	00	00	00	00	00	00	00	00

FIG.30

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BYTE0	BYTE1
L	H
Max. FFFFh	

FIG.31

Offset Address	MSB 7	6	5	4	3	2	1	LSB 0
0	Reserved							
1	Stored FAT Count (LOWER 8 bits)							
2	Stored FAT Count (UPPER 8 bits)							

FIG.32

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MSB7	6	5	4	3	2	1	LSB0
Interface Mode	Reserve	Recording Bit Rate			Recording Video Frequency		

FIG.33

Offset Address	MSB 7	6	5	4	3	2	1	LSB 0
0	AUDIO Status(CH-2)				AUDIO Status(CH-1)			
1	AUDIO Status(CH-4)				AUDIO Status(CH-3)			
2	AUDIO Status(CH-6)				AUDIO Status(CH-5)			
3	AUDIO Status(CH-8)				AUDIO Status(CH-7)			

FIG.34

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Block No.	Address	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F				
#000B	00B0	<	Extended Area Format ID							Format Version											
#000C	00C0		Reel Name			EDL File Name															
#000D	00D0		Stocked Floor No.		Stocked Shelf No.				Stocked Step No.				Stocked Position								
#000E	00E0		Reserve																		
#000F	00F0		Reserve																		
#0010	0100	<																			
#0011	0110		Comment																		
#0012	0120		>																		
#0013	0130																				
↑	↑		↑ ↓																		

FIG.35

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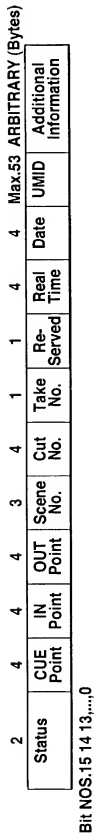


FIG.36

Status	CUE DATA		
01h	00h		

FIG.37

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Status		CUE DATA				IN DATA				OUT DATA			
07h	00h												

FIG.38

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Classification	Flow/Mode/ DataSize (UPPER)	DataSize (LOWER)	Data
----------------	--------------------------------	---------------------	------

FIG.39

	MSB 7	6	5	4	3	2	1	LSB 0
Classifi- cation	Classification+0							
Classifi- cation+N								
Flow/Mode /Data B.C.	Delimiter 1:Limit	Flow	Mode	Data Byte Count (UPPER 4 Bits)				
Data B.C.	Data Byte Count (LOWER 8 Bits)							
	Data0 ... DataN							

FIG.40

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Time Snap(data omitted)				Rnd	
Frame	Second	Minute	Hour	Lower	Upper

FIG.42

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Universal Label	Instance Number				Material Number (16 Bytes)																
					Time Snap (8 Bytes)								Machine Node (6 Bytes)								
	11th	12th	low	mid	up	Frame	Sec	Min	Hour	MJDI	MJDm	MJDs	Tzone	Low	up	Rnd	1st	2nd	3rd	4th	5th
0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	

FIG.43

Basic UMD(21 Bytes)										Signature Metadata(32 Bytes)											
U.L.L		Instance Number		Material Number (16)						Time/Data stamp(8)		Spatial coordinate(12)				Country Code		Organi- zation		User Code	
123		Number		Time Snap (8)		Rnd		Machine Node (6)		Time		Data		Altitude		Longitude		Latitude			
5				10				15		20		25		30		35		40			
0																				45	
																				50	

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01 84	00 30 59 23	04 11 00 00 29 52 59 10 95 44 05 97 DF 3D 89 27 00 02 04 43
FLAG	CUE	UMID
01 82	00 45 59 23	12 00 00 11
		2E D5

UMID

2E D5

12 00 00 11

CUE

01 82 00 45 59 23

FLAG

FIG. 45A

FIG. 45B

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06 0E 2B 34 01 01 01 01	01 05 01 02 00 00 00	0D 54 68 65 20 54 65 6C 65 2D 46 69 6C 65
DECLARATION	MAIN TITLE CODE	LENGTH
13 ASCII CHARACTERS REPRESENTING TITLE ("The Tele-File")		

FIG.46

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06 10	00 00 00 01	00 00 05 01	4D 80 16	01 05 01 02 00 00 00 00	0D	54 68 65 20 54 65 6C 65 2D 46 69 6C 65
FLAG	In 01:00:..	Out 01:05:..	HEADER	MAIN TITLE CODE	LENGTH	¹³ ASCII CHARACTERS REPRESENTING TITLE ("The Tele-File")

FIG.47

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01	05	01	02	00	00	00	00	0D	54	68	65	20	54	65	6C	65	2D	46	69	6C	65
01	05	01	03	00	00	00	00	0B	41	70	70	6C	69	63	61	74	69	6F	6E		
04	01	01	03	04	00	00	00	01													1E

FIG.48

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01 10	00 30 58 00	4D 80 0B	04 01 01 03 04 00 00 00	01 1E
01 10	00 00 00 01	4D 80 16	01 05 01 02 00 00 00 00	0D 54 68 65 20 ...
01 10	00 00 05 01	4D 80 14	01 05 01 03 00 00 00 00	0B 41 70 70 6C ...
01 00	00 00 10 01			

FIG.49

Flag1 [bit2,1]	Universal Label(12 Bytes)												L	Instance			Time Snap(8 Bytes)			RND			Machine Node(6 Bytes)						Signature Meta																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
Least [01]	#06#0A#2B#34	#01	#01	#01	#01	#01	#01	#01	#01	#01	#01	#01	#01	p	p	p																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							</

FIG.50

3FF	000	000	2D8	...	EAV							
000	3FF	3FF	2F0	101	120	...	ANC for Meta-data, data count=32					
206	10A	22B	134	101	101	101	101	101	104	211	...	universal label
113											...	length
200	200	200									...	instance
129	152	259	110	295	244	205	197				...	time snap
1DF	13D										...	random
189	227	200	102	104	143						...	machine node

FIG.51

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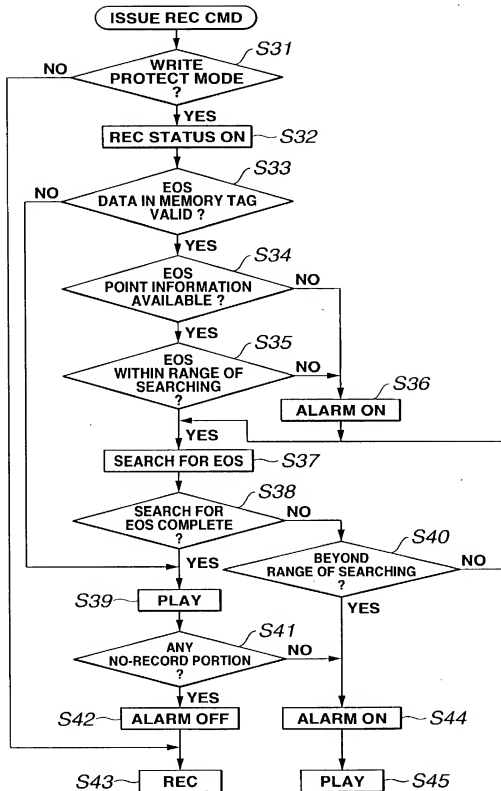


FIG.53

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FIG.54A

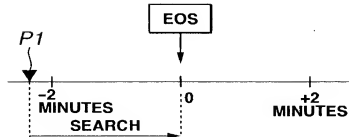


FIG.54B

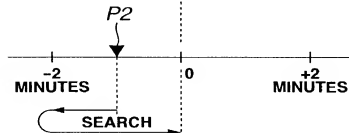


FIG.54C

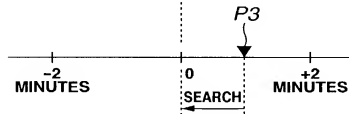
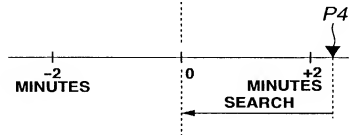


FIG.54D



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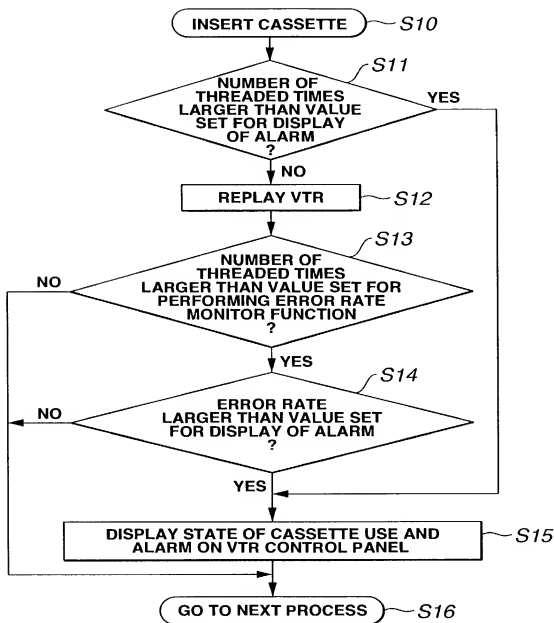


FIG.55

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TAPE ID	TITLE	INTENDED USE	NUMBER OF THREADED TIMES	JUDGE	COMMENT
HD-10001	FROM SOUTHERN COUNTRY	LIBRARY	6	EXCELLENT	
D2-22029	OSAKA KIN-YU-DO	DRAMA	20	FAIR	
SX-23478	"MIMI-NO-KUNI" WORDS OF PRIME MINISTER HAYASHI	SHARING	100	NOT FAIR	TO BE VOIDED ON JUNE 19,2000
IMX-57870	K2 GRAND PRIX	SHARING	20	GOOD	

FIG.56

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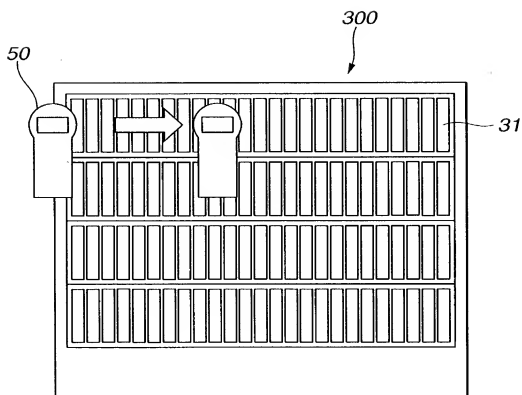


FIG. 57

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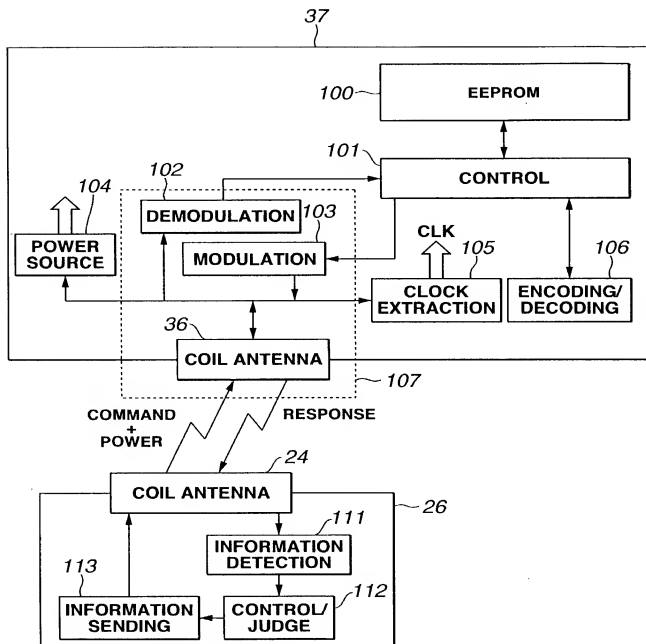


FIG.58

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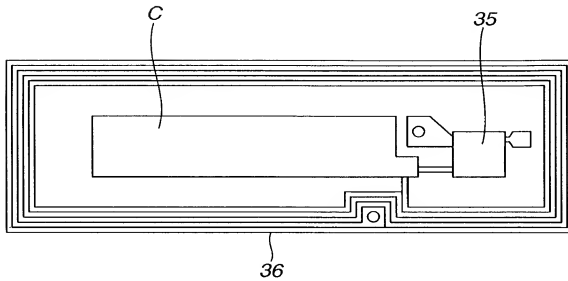


FIG. 59

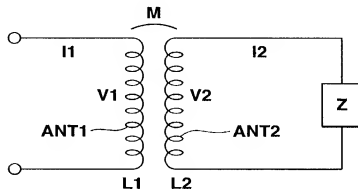
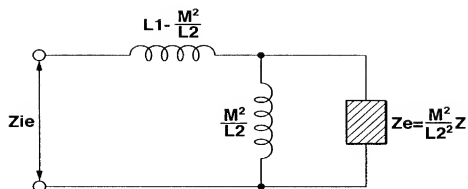


FIG. 60

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$$Z_{ie} = j\omega(L1 - \frac{M^2}{L2}) + \frac{1}{\frac{j\omega M^2}{L2} + \frac{L2^2}{M^2 Z}}$$

FIG.61

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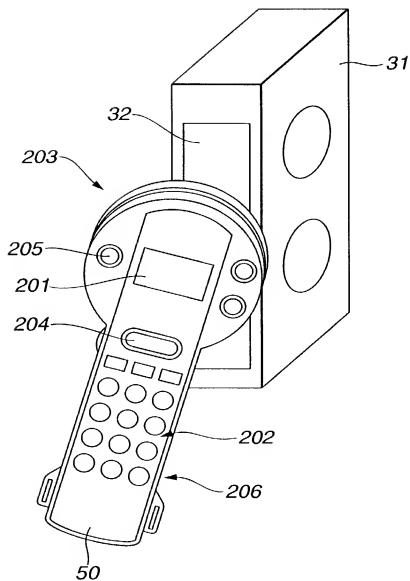


FIG.62